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ABSTRACT OF THE DISCLOSURE

A morial agglutinogen preparation is prepared from a Bordetella strain, particularly a B. pertussis strain, by a multiple step procedure involving extraction of the fimbrial agglutinogens from cell paste and concentrating and purifying the extracted material. The fimbrial agglutinogen preparation may be used to prepare acellular pertussis vaccines with other pertussis antigens, including pertussis toxin or toxoid thereof, the 69 kDa protein and filamentous hemagglutinin and other Bordetella antigens.